# Defining Teacher Effectiveness in Secondary Education: The Perceptions of Greek Students

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**Abstract**. The present research was conducted in 2014-2015 in 30 schools across Greece and examines, through a specifically designed questionnaire, the views of 879 Greek secondary education students on teaching practices, teacher traits and behaviours which are associated by students with teacher effectiveness. According to the results, Greek students (a) relate teacher effectiveness to scientifically accepted teaching practices implemented and procedures developed in the classroom (e.g. during cooperative learning or individualized/ adapted teaching, during knowledge scaffolding, clarification of objectives, and feedback provision) and (b) attribute the feature 'effective' to teachers who develop specific behavioural attitudes during interpersonal communication, such as empathy, friendliness, supportiveness, trustworthiness and humour.

**Keywords:** Effective teacher; secondary education; students' views; Greece

## Introduction

Teacher effectiveness has been reported to be closely linked, firstly, to a teacher's professional background and qualifications, secondly, to local/national community values, expectations and material resources and infrastructure at the teacher's disposal, and, thirdly, to learning processes developed within school settings and carried out through constructive interactions between teacher-to-student, teacher-to-parent, teacher-to-teacher, student-to-student (Garrett & Steinberg, 2015; Goe, Bell, & Little 2008; Kyriakides, Demetriou, & Charalambous, 2006; Ross et al., 2003). Such factors, features and interactions are likely to lead to high academic, affective, and social/attitudinal achievements not only by students but also by teachers which can be standardised, measured, and evaluated through a variety of modern scientifically designed assessment procedures (Heneman et al., 2006; Junker et al., 2006; Murphy, 2016; Rivkin, Hanushek, & Kain, 2005; Schleicher, 2016).

Although numerous aspects of effective teaching have been recorded and examined after a huge amount of research conducted over the last few decades, the majority of the researchers seem to agree that effective teachers are mainly expected to (i) help all students meet not only social and educational requirements and commitments but also a student's personal expectations and aspirations (ii) diversify teaching/learning process through the utilisation of a

variety of educational strategies and individualise provision of learning material and support according to the special needs of every student in the classroom, and (iii) collaborate concordantly with colleagues, families, administration, and supportive scientific services and institutions in order to share and improve experience, feedback, and outcomes (Arnon & Reichel, 2007; Bakx et al., 2015; Devine, Fahie, & McGillicuddy, 2013; Norman, 2010; OECD, 2013; Quigley, 2016; Teddlie et al., 2006).

It is rather apparent that this particularly broad range of educational aspects, that teacher effectiveness is linked to and, in fact, depends on, renders efforts to monitor, assess or even describe it in an integrated and widely accepted way quite challenging, albeit feasible as Campbell and colleagues (2003), Goe, Bell, and Little (2008), Hakel, Koening, and Elliott (2008) and Muijs (2006) have shown. In fact, one could justifiably say that if a teacher has to be actually 'effective', s/he must act, behave, and develop far beyond the potentials and opportunities provided to him/her in the real world – a view apparently unfair and discouraging for educators. It is, thus, more realistic for researchers to examine specifically targeted aspects of effective teaching as they are demonstrated within more controllable and monitorable educational settings, in order to determine factors facilitating several aspects of effective teaching and suggest ways to strengthen, improve and advance the teaching/learning process (Borich, 2016; Greany & Rodd, 2003; Mayer & Alexander, 2011; Meng, Muñoz, & Wu, 2015; Slavin, 2014).

Modern research has provided us with relevant information; Lutz, Guthrie, and Davis (2006) have highlighted the major positive impact which scaffolding content and establishing steps in learning activities within the classroom may have on the educational process, while Tucker and Stronge (2005) have linked successful scaffolding to teacher ability to predetermine and clearly display and explain to the students the specific academic and socio-emotional objectives of every step of the learning procedure. Moreover, Matsumura and Pascal (2003) have shown that effective teachers are able to simplify knowledge and clarify appointed tasks by using comprehensible language adapted to the students' comprehension ability, while Smylie and Wenzel (2006) have reported that adaptations of learning material in a way that can meet diversified needs of students can produce major positive outcomes, especially in cases where children with special educational needs are included in the classroom. Effective teachers are expected to provide individualized assistance to students of different learning backgrounds, emotional profile, or ethnic origin; such adaptations and diversifications have been considered to be cornerstones of effective teaching, as Cohen and Hill (2000), Blank, Porter, and Smithson (2001) and Berry (2004) have shown.

Moreover, for effective teachers, adaptations seem also to be linked to their ability to update learning content and utilize highly diversified teaching methods and techniques within their classrooms; they are reported to engage their students in stimulating, thought-provoking real-life learning tasks, breaking thus the conventionalities and routines of the traditional frontal teaching process (Gottlieb, 2015; Opdenakker & Van Damme, 2006; Pozo-Muñoz, Rebolloso-Pacheco, & Fernández-Ramírez, 2000). They are, also, reported to evolve their teaching practices in ways that overcome obstacles

related to the socio-financial settings of the school, the infrastructure provided, or the heterogeneity of the student population (Schacter & Thum, 2004; Sharan, 2010).

In addition, a teacher's personal traits and features related to teacher-student communication have been reported to contribute to effective teaching; Rice (2003), Hamre and Pianta (2005), Schacter, Thum, and Zifkin (2006) and Perry, Donohue, and Weinstein (2007) have reported that teachers investing in the establishment of sound interpersonal relationships with their students motivate students' accountability, cooperativeness, and commitment, while developing feelings of security and emotional stability. Despite the fact that the quality of teacher-student communication seems to considerably depend on factors which the teacher does not always control (Cohen, Brody, & Sapon-Shevin, 2004), it has been confirmed that effective teachers tend to develop friendly relationships with their students based though more on teacher professional authority, awareness and a profound knowledge of pedagogical principles than on personal kindness and approachability (Ferreira & Bosworth, 2001; Sharan, 2015; Van Gog & Paas, 2008). The establishment of such sound teacher-student relationships has, also, been reported to be consolidated when students are prompted to work in various collaborative ways, especially in cases where the teachers provide their students with integrated knowledge on the principles and the outcomes of cooperative learning and help them then develop rules for cooperation, interpersonal communication, task allocation, and peer assistance (Corner, 2012; Davis, 2013; Hargreaves, 2000).

Furthermore, effective teachers have been reported to provide their students with sufficient feedback about their socio-affective and academic achievements while implementing flexible assessment techniques in order to ensure student metacognitive awareness and performance improvement (Harlen, 2006; Heneman et al., 2006; Mayer & Alexander, 2011). In a similar way, effective teachers are not afraid of being evaluated by their own students; students' remarks and recommendations, when developed on the basis of mutual respect and acceptance, have been reported to improve both teachers' professional profile and students' ability to construct and express sufficiently justified judgments (Gardner, 2006; Stiggins, 2001).

As regards Greece, relevant information about teacher effectiveness is rather scarce. The educational system in Greece, despite minor reforms that have taken place over the last five years (Georgiadis, 2007; Traianou, 2009), remains highly bureaucratic; namely it serves quantity rather than quality objectives, in particular as regards secondary education (i.e., Junior and Senior High School, with 13-18 year-old students); there is a plethora of learning subjects, not always adequately adapted to the students' comprehension level, quick-pace content transmission through frontal lecturing seems to prevail over cooperative or experiential learning, while continual assessment procedures seem to oblige teachers, students, and parents to follow almost asthmatically this rapidly evolving learning process (Alahiotis & Karatzia, 2006; Ifanti, 2007; Koulaidis et al., 2006; Koustourakis, 2007; OECD, 2011). In addition, the inflexibility of these content-oriented Curricula dissuades teachers from making adaptations and, consequently, from individualized teaching, although the often unplanned inclusion of immigrants and students with special educational needs in

mainstream classes renders adaptation and individualization pressingly urgent (OECD, 2015; Poulou, 2007; Vouyoukas, 2007; Zounhia et al., 2002).

This research, which took place in 2014-2015, examines Greek secondary education students' views on the features and behaviours of effective teachers and follows 2011-2012 research on the effective teacher from the point of view of the teachers themselves (Koutrouba, 2012). More specifically, it examines students' views about (a) teaching practices implemented and procedures developed in the classroom by teachers who are considered to be effective and (b) personality features and behavioural attitudes which are considered to be related to teacher effectiveness.

**Methodology**

The present research took place in 2014-2015 with the contribution of 10 undergraduate University students who, being provided with systematic relevant information and having the permission of the Ministry of Education and Religious Affairs of Greece, assisted students from 30 secondary education schools throughout Greece ((located in equal number in urban/semi-urban and in rural/peripheral areas, where the teacher-to-student and teacher-to- school ratios represent the national ratios of 1:8.5 and 21.1:1 respectively, OECD, 2011) in understanding and filling in a questionnaire with 43 close-ended questions. In this way, 1,000 questionnaires were distributed (and 879 of them were finally returned and used for the present study – response rate: 87.9 per cent) in order to ensure that, in this research, as many students as possible had experienced teachers of different professional profiles and teachers who had been involved in a large number of possible different educational situations in which students could be expected to realize, define and indicate effectiveness more easily.

Of the 43 questions 3 examined students' personal profile (gender, class attended-age, nationality), while 40 five-point Likert-type special questions (that can be seen in table 1) referred to students' perceptions about teacher effectiveness. To maximize the respondents' awareness and internal consistency in answers during questionnaire completion, specific questions were not arranged on the basis of their relation with the ones preceding or following them. Nevertheless, question relevance was a criterion for question grouping.

Given the fact that the international literature could not provide the researcher with an instrument which would allow her to examine all variables necessary for the present research, the questionnaire was self-administered, while, for its synthesis, valuable findings of Arnon and Reichel (2007), Cohen, Brody, and Sapon-Shevin (2004), Davis (2013), Devine, Fahie, and McGillicuddy (2013), Greany and Rodd (2003), Hakel, Koenig, and Elliott (2008), Kyriakides, Demetriou, and Charalmbous (2006), Matsumura and Pascal (2003), and Pozo-Muñoz, Rebolloso-Pacheco, and Fernández-Ramírez (2000) were used.

Predictive Analytics Software Statistics 21 was used for the elaboration of the research data, the statistical and the factor analysis, which used Principal Component Analysis with the method of Varimax rotation extraction to identify the factors that affect the participants' perceptions about teacher effectiveness. s

## Analysis of results
*Participants' profile*
In the present research, the majority of the participants (52.8%) were girls, while the rest of the students (47.2%) were boys. A percentage of 50.4% of the respondents were Junior High School students (13-15 years old), while the rest 48.6% were Upper High School students (16-18 years old). Finally, a percentage of 11.9% of the participants were of nationality other than Greek.

*Special questions*
Table 1 presents students' responses to the questions about their views on teachers' tactics, traits and behaviours that are related to teaching effectiveness in the classroom. Variables 1-3 portray a teacher who is considered 'much' to 'very much' to be effective when s/he, firstly, has a profound knowledge of the subject s/he teaches, secondly, provides students with detailed information on Curriculum objectives and clarifies the expected outcomes, the learning procedures and tasks, and, thirdly, ensures student knowledge scaffolding and assimilation by checking prior knowledge before providing new information. Moreover, for the majority of the participants an effective teacher 'much' to 'very much' ensures comprehensibility by using simple and intelligible language during the lesson, and adapts lesson requirements to the average student's understanding ability to prevent misunderstanding and unresponsiveness (variables 4 and 5). Students also reported that an effective teacher 'much' to 'very much' simplifies obscure notions, reducing, thus, learning effort by providing examples and paradigms (variable 6). In addition, s/he makes many revisions and breaks down long units into smaller ones, obviously to help students assimilate extensive content; s/he could be probably described as methodical, systematic, and focused on the quality of the students' learning (variable 7). Moreover, an effective teacher uses various visual aids and IT to stimulate student interest, and modernises knowledge acquisition by providing students with supplementary updated learning material (e.g. s/he teaches/informs students about things shown on TV, found on the internet, about the news, about books and newspapers, about political, economical, social, ecological issues circulating in the local community or in the world) (variables 8 and 9).

The majority of the respondents, also, described as effective a teacher who 'much' to 'very much' provides enough time for the students to answer, who 'moderately' to 'much' does not hesitate to deviate from Curriculum and schoolbooks to meet student learning needs and interests, while 'much' to 'very much' utilises opportunities to teach students out of the classroom (e.g. in the library/the lab, in the museum, in places of work, in schoolyard, during excursions etc.) (variables 10-12).

In addition, for the respondents, an effective teacher 'much' to 'very much' has to ensure solidarity/cohesion and a caring environment by providing students who present learning difficulties with individualized learning material/ support and by asking them simpler questions (variable 13). S/he also 'much' to 'very much' has to encourage low-achievers and diffident students, but 'moderately' to 'much' has to develop student cooperativeness, openness and friendliness by encouraging group work, and, in some cases, to utilise peer

learning to encourage cohesion, shared responsibility, and team spirit (variables 14-16). Effective teachers are, also, expected to stop teaching procedure to discuss with students when a problem hinders their participation, and to put students' views under serious consideration before taking decisions about issues regarding them (variables 17 and 18). However, when students seem to stray from the subject and become distracted, an effective teacher is 'not at all' to 'slightly' expected to turn immediately to teacher-centred methods like lecture (variable 19). Effective teachers are, also, reported to make students feel safe and secure, by helping them accomplish, within the school, homework assignments (variable 20). Moreover, they avoid circumstantial judgments by assessing a student's overall learning effort and development (variable 21). Such teachers are 'much' to 'very much' expected to encourage improvement incentives, by providing students with feedback and information about their learning performance, and by 'moderately' to 'much' providing opportunities for students' self-assessment in order to strengthen meta-cognitive awareness and self-understanding (variables 22 and 23). They are, also, 'much' to 'very much' expected to encourage students by highlighting positive achievements before indicating weaknesses, mistakes and intervention measures (variable 24).

In addition, the majority of the respondents consider as effective the teachers who 'much' to 'very much' are kind and open in communication with students, frank and affable when looking a student in the face, and spontaneous and warm during discreet physical touch (e.g. friendly thump on the back, pat on the cheek, handshake) (variables 25-27). Students, also, seem to consider as effective the teacher who admits ignorance about several issues, accepts that s/he has made a mistake, and is, in general, humorous, jocular and pleasant, albeit strict with disobedient students to whom s/he imposes exemplary punishments (variables 28 and 29). In addition, effective teachers are expected to display empathy, to be friendly, soothing and familiar while being on first name terms with students, and, moreover, to be encouraging and supportive when prompting students to be active during the learning process (variables 30-32). The majority of the respondents 'much' to 'very much' believe that effective teachers are patient, eager to repeat explanations to weak students and encourage shy ones, while being respectful to students' personal objections and different opinions (variables 33 and 34). For the majority of the students, as well, an effective teacher is secretive and trustworthy when heartening students to talk about their personal matters (variable 35). S/he is, also, democratic when permitting students to express comments about his/her teaching techniques, classroom management, and behaviour, and unprejudiced as regards the students' academic achievements, probably in order to avoid discrimination that may lead to a self fulfilling prophecy (variables 36 and 37). Finally, an effective teacher is 'much' to 'very much' expected to be impartial as regards student behaviour, respectful of student dignity and shyness to avoid hurting their feelings, and consistent as regards words and deeds, namely as regards demands from one's self and from the others (variables 38-40).

**Table 1: Responses of students (in percentages) to the questions about effective teacher's practices, features and behavioural attitudes**

|  | *I would describe a teacher as effective as long as s/he:* | Not at all | Slightly | Moder-ately | Much | Very much |
|---|---|---|---|---|---|---|
| 1. | Knows perfectly what s/he teaches, looks confident about what s/he knows | 1.3 | 4.1 | 8.9 | 26.4 | 59.3 |
| 2. | Tells us before the lesson why we are doing it, what s/he expects me to learn and to do, and how to do it | 3.1 | 14.2 | 28.7 | 36.7 | 17.3 |
| 3. | Checks before the lesson what I already know and urges me during teaching to remember things I have already learnt | 0.9 | 3.2 | 14.8 | 36.2 | 44.9 |
| 4. | I can understand him/her when s/he speaks, I know the words s/he uses | 1.7 | 3.4 | 16 | 39.9 | 39 |
| 5. | I think that all students learn, s/he repeats, explains and urges everybody to participate | 2.7 | 10.8 | 27 | 36.7 | 22.8 |
| 6. | S/he gives many examples, explains difficult words, underlines sentences, writes text using bullets | 0.9 | 1.9 | 8.4 | 24.5 | 64.3 |
| 7. | S/he makes many revisions and divides long units into smaller ones | 2 | 8.6 | 22.6 | 38.9 | 27.9 |
| 8. | Uses pictures/graphs/maps/films/power point/computers | 3.6 | 6.1 | 17.3 | 35.1 | 37.9 |
| 9. | Teaches us about things shown on TV, found on the internet, about the news, about books and newspapers, about things happening in the town or in the world | 3.1 | 9.3 | 25.6 | 37.8 | 24.2 |
| 10. | Gives me time to answer at ease, s/he regularly tells me to take my time | 1.4 | 6.4 | 18.8 | 35.3 | 38.1 |
| 11. | When we are very interested in something, s/he leaves the books aside | 6 | 14.4 | 32.1 | 30 | 17.5 |
| 12. | Teaches me everywhere, in many occasions, even out of the classroom (in the library/the lab, in the museum, in places of work, in schoolyard, during excursions etc.) | 4.2 | 5.5 | 16 | 32.9 | 41.4 |
| 13. | Makes easier questions to weak students, teaches them in the break time, gives them easier work to do | 3.5 | 5.3 | 19.1 | 35 | 37.1 |
| 14. | Regularly congratulates weak and shy students | 1.4 | 3.9 | 12.1 | 30.3 | 52.3 |
| 15. | Lets us work in groups | 7.1 | 16.3 | 27.8 | 30.8 | 18 |

| 16. | Sometimes s/he puts a good student to help a weak one | 13.5 | 15.1 | 27.5 | 27.3 | 16.6 |
|-----|---|---|---|---|---|---|
| 17. | When we have a problem, s/he stops the lesson to discuss it and s/he won't go on before we solve it | 1.7 | 3.8 | 11.4 | 32.6 | 50.5 |
| 18. | Listens carefully to our proposals when we have a problem | 1.5 | 3.2 | 11.5 | 35.7 | 48.1 |
| 19. | When we get distracted, s/he starts lecturing | 50.5 | 21.8 | 15 | 7.4 | 5.3 |
| 20. | Helps me at school do/prepare my homework, helps me when something is difficult | 1.5 | 4.4 | 19.3 | 40.3 | 34.5 |
| 21. | Doesn't only tell me what marks I've got in exams, but also if I try enough, if I improve, if I behave well | 6 | 6.4 | 12.6 | 26.7 | 48.3 |
| 22. | Explains to me my mistakes, what to do the next time to improve, what my strong points are | 8.1 | 8.5 | 19.6 | 33.7 | 30.1 |
| 23. | Lets us find our own mistakes, mark and grade our own works and performance, check our own behaviour | 9.8 | 20.7 | 32 | 25.8 | 11.7 |
| 24. | First tells me the positive things I have done, and then the negative ones | 2.8 | 5 | 14 | 33.3 | 44.9 |
| 25. | Is friendly and smiling when s/he talk to me | 2.6 | 3.8 | 15.8 | 31.6 | 46.2 |
| 26. | Is kind, sincere, simple, looks at me in my eyes | 6.8 | 11 | 22 | 30.3 | 29.9 |
| 27. | Often gives me a friendly thump on the back, pat on the cheek, handshake etc. | 7.5 | 13.7 | 24.9 | 23.7 | 30.4 |
| 28. | Sometimes s/he says 'Well, I didn't know that' or 'Sorry, that's my fault' | 1.6 | 4.2 | 13.5 | 42.3 | 38.4 |
| 29. | Is humorous but becomes strict when someone doesn't behave well | 1.9 | 2.3 | 12.6 | 36.5 | 46.7 |
| 30. | I think s/he easily places him/herself in my shoes | 3.1 | 4.7 | 13.8 | 28.9 | 49.5 |
| 31. | Calls me with my first name, tells me often 'it's OK-don't worry' | 4.2 | 5.3 | 17.3 | 31.4 | 41.8 |
| 32. | Tells me often 'go on, don't be afraid, I'll help you' | 1.6 | 3.7 | 15 | 31.3 | 48.4 |
| 33. | Is never tired of explaining again and again, especially to kids who don't understand something or are shy | 1 | 3.2 | 9.2 | 31.2 | 55.4 |
| 34. | Respects our views and objections | 1 | 5.2 | 15.6 | 33.9 | 44.3 |
| 35. | Would never tell a secret I've told him/her; I would confide a secret or a personal issue to him/her | 1.1 | 2.4 | 8.2 | 28.6 | 59.7 |
| 36. | Lets us judge him and his/her lesson without getting angry | 5 | 5.8 | 17 | 34.6 | 37.6 |

| 37. | Tries to help all students learn, not only the good ones | 4 | 6 | 11.9 | 19.9 | 58.2 |
|---|---|---|---|---|---|---|
| 38. | Is just and fair when imposing punishments | 2.2 | 4.4 | 13.1 | 32.2 | 48.1 |
| 39. | Calls me out of the classroom to discuss privately something I have done or said, or something I must do | 3.9 | 6.9 | 16.7 | 30.3 | 42.2 |
| 40. | Won't do what s/he tells us not to do (play with mobile phone, chew gum, come late in the classroom) | 4.7 | 4.8 | 10.5 | 18.3 | 61.7 |

*Factor analysis*

Thirty two of the earlier-mentioned variables were selected, related in level of significance $\alpha = 1\%$ to the perceptions of the 879 secondary education students about effective teaching. The thirty two variables were as follows:

I would describe a teacher as effective as long as s/he:

(1)     Knows perfectly what s/he teaches, looks confident about what s/he knows

(2)     Tells us before the lesson why we are doing it, what s/he expects me to learn and to do, and how to do it

(3)     Checks before the lesson what I already know and urges me during teaching to remember things I have already learnt

(4)     I can understand him/her when s/he speaks, I know the words s/he uses

(5)     I think that all students learn, s/he repeats, explains and urges everybody to participate

(6)     S/he gives many examples, explains difficult words, underlines sentences, writes text using bullets

(7)     Uses pictures/graphs/maps/films/power point/computers

(8)     Teaches us about things shown on TV, found on the internet, about the news, about books and newspapers, about things happening in the town or in the world

(9)     Gives me time to answer at ease, s/he regularly tells me to take my time

(10)     When we are very interested in something, s/he leaves the books aside

(11)     Teaches me everywhere, in many occasions, even out of the classroom (in the library/the lab, in the museum, in places of work, in schoolyard, during excursions etc.)

(12)     Makes easier questions to weak students, teaches them in the break time, gives them easier work to do

(13)     Regularly congratulates weak and shy students

(14)     Lets us work in groups

(15)     When we have a problem, s/he stops the lesson to discuss it and s/he won't go on before we solve it

(16)     Listens carefully to our proposals when we have a problem

(17)   Helps me at school do/prepare my homework, helps me when something is difficult

(18)   Doesn't only tell me what marks I've got in exams, but also if I try enough, if I improve, if I behave well

(19)   Explains to me my mistakes, what to do the next time to improve, what my strong points are

(20)   First tells me the positive things I have done, and then the negative ones

(21)   Is friendly and smiling when s/he talks to me

(22)   Is kind, sincere, simple, looks at me in my eyes

(23)   Often gives me a friendly thump on the back, pat on the cheek, handshake etc.

(24)   Sometimes s/he says 'Well, I didn't know that' or 'Sorry, that's my fault'

(25)   Is humorous but becomes strict when someone doesn't behave well

(26)   I think s/he easily places him/herself in my shoes

(27)   Calls me with my first name, tells me often 'it's OK-don't worry'

(28)   Tells me often 'go on, don't be afraid, I'll help you'

(29)   Is never tired of explaining again and again, especially to kids who don't understand something or are shy

(30)   Respects our views and objections

(31)   Would never tell a secret I've told him/her; I would confide a secret or a personal issue to him/her

(32)   Lets us judge him and his/her lesson without getting angry

We applied factor analysis (Howitt & Cramer, 2014) to these variables in order to determine the factors that influence students' beliefs about effective teaching, given the fact that this technique for data analysis is acceptable and adequate, as verified firstly by the value 0.916 of the KMO measure for sampling adequacy and secondly by Bartlett's test of sphericity (table 2) which revealed high statistical significance of the statistic $\chi^2$ (zero $p$-value).

**Table 2: KMO and Bartlett's Test of sphericity**

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | 0.916 |
|---|---|---|
| Bartlett's Test of Sphericity | Approx. Chi-Square | 8216.329 |
| | df | 496 |
| | Sig. | 0.000 |

Since performance of PCA from the first eight components, which had eigenvalues greater than 1, explained 55.774% of the total variance, PCA was used with Varimax rotation extraction method in eight components (table 3). Scree plot (Figure 1) shows where the most variance was explained.

**Table 3: Factor analysis results**

| Variables | Component | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Communalities |
| 1 | **0.723** | 0.084 | 0.078 | 0.150 | 0.079 | -0.057 | 0.203 | -0.027 | 0.610 |
| 2 | 0.295 | -0.019 | 0.138 | 0.056 | 0.282 | -0.135 | **0.656** | -0.112 | 0.651 |
| 3 | **0.651** | 0.129 | 0.226 | 0.117 | 0.065 | 0.080 | 0.029 | 0.102 | 0.527 |
| 4 | 0.339 | **0.634** | 0.190 | 0.136 | -0.020 | 0.027 | 0.108 | 0.038 | 0.586 |
| 5 | 0.032 | 0.204 | 0.036 | 0.149 | -0.068 | 0.234 | **0.654** | 0.092 | 0.562 |
| 6 | **0.721** | 0.228 | 0.097 | 0.074 | 0.013 | 0.119 | 0.065 | 0.049 | 0.607 |
| 7 | 0.317 | 0.193 | 0.127 | 0.235 | **0.520** | 0.292 | -0.036 | -0.016 | 0.567 |
| 8 | 0.139 | 0.065 | 0.161 | 0.072 | 0.153 | **0.759** | 0.136 | 0.068 | 0.677 |
| 9 | 0.026 | **0.560** | 0.231 | -0.070 | 0.266 | -0.038 | 0.147 | -0.087 | 0.475 |
| 10 | 0.104 | 0.098 | 0.152 | 0.009 | 0.194 | **0.749** | 0.067 | -0.035 | 0.648 |
| 11 | 0.295 | 0.243 | 0.103 | 0.081 | **0.637** | 0.112 | -0.107 | 0.009 | 0.592 |
| 12 | 0.092 | 0.116 | **0.655** | 0.073 | 0.119 | 0.021 | 0.193 | -0.106 | 0.519 |
| 13 | **0.461** | 0.202 | 0.037 | 0.023 | 0.146 | 0.153 | 0.351 | 0.208 | 0.466 |
| 14 | 0.008 | 0.036 | 0.048 | 0.084 | **0.618** | 0.234 | 0.283 | 0.086 | 0.535 |
| 15 | **0.505** | 0.160 | 0.140 | 0.075 | 0.133 | 0.178 | 0.172 | 0.230 | 0.438 |
| 16 | 0.187 | 0.247 | **0.558** | 0.120 | 0.060 | 0.036 | -0.032 | 0.278 | 0.506 |
| 17 | 0.178 | 0.380 | 0.082 | 0.144 | -0.011 | 0.229 | **0.478** | 0.203 | 0.525 |
| 18 | 0.051 | 0.044 | 0.158 | 0.106 | 0.207 | -0.129 | 0.109 | **0.692** | 0.591 |
| 19 | 0.278 | 0.125 | 0.130 | 0.178 | -0.143 | 0.216 | -0.018 | **0.653** | 0.635 |
| 20 | **0.675** | 0.204 | 0.212 | 0.091 | 0.180 | 0.073 | -0.059 | 0.080 | 0.598 |
| 21 | 0.061 | 0.103 | **0.681** | 0.099 | 0.164 | 0.145 | -0.088 | 0.053 | 0.547 |
| 22 | 0.154 | 0.020 | 0.209 | **0.607** | 0.026 | 0.035 | 0.109 | -0.064 | 0.454 |
| 23 | -0.031 | -0.016 | 0.082 | **0.690** | 0.252 | -0.052 | 0.134 | 0.126 | 0.584 |
| 24 | 0.181 | **0.702** | 0.118 | 0.150 | 0.115 | 0.049 | 0.024 | 0.063 | 0.582 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 0.140 | 0.032 | **0.519** | 0.205 | -0.165 | 0.025 | 0.271 | 0.247 | 0.494 |
| 26 | 0.207 | 0.165 | 0.222 | **0.678** | -0.014 | 0.059 | 0.083 | 0.215 | 0.636 |
| 27 | 0.129 | 0.195 | 0.131 | **0.752** | -0.011 | 0.100 | -0.028 | 0.084 | 0.655 |
| 28 | 0.185 | 0.171 | **0.678** | 0.177 | -0.046 | 0.109 | -0.034 | 0.091 | 0.578 |
| 29 | 0.145 | **0.574** | 0.121 | 0.141 | -0.171 | 0.227 | 0.244 | -0.084 | 0.532 |
| 30 | 0.226 | **0.626** | 0.053 | 0.107 | 0.214 | 0.075 | 0.000 | 0.256 | 0.575 |
| 31 | 0.199 | 0.092 | **0.514** | 0.222 | 0.137 | 0.165 | 0.128 | 0.107 | 0.435 |
| 32 | 0.155 | **0.466** | 0.141 | -0.049 | 0.394 | 0.036 | 0.014 | 0.206 | 0.462 |
| Percentage of total variance explained Rotation sums of squared loadings | 10.234 | 8.860 | 8.545 | 7.254 | 5.692 | 5.331 | 5.265 | 4.592 | |

*Note:* Communality or common factor variance: total variance of each variable explained by common factors
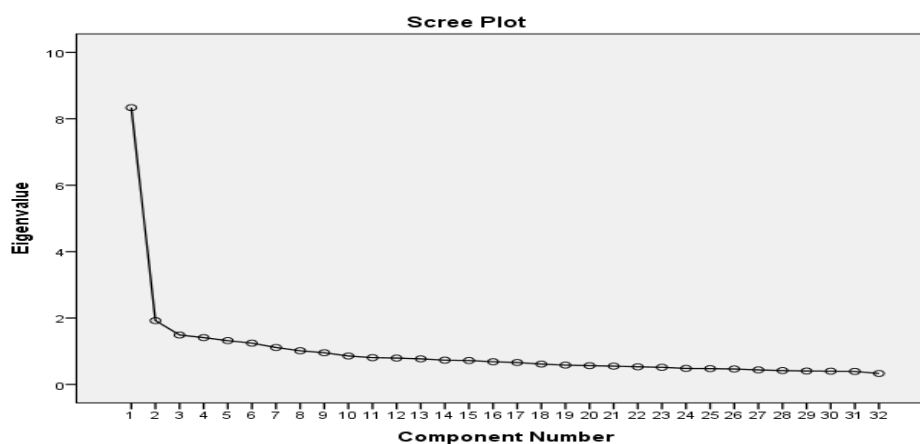


**Figure 1. Scree plot**

**Comments on the factor analysis results**

According to the factor analysis results, the eight main factors were as follows:

- *Factor 1: Expert teacher orientation towards simplified knowledge scaffolding, addressing learning problems and boosting the students' confidence. Variables* with *Significant Positive Influence [VSPI]* between them and with the *Highest Factor Loadings [HFL]*: [1], [3], [6], [13], [15] and [20]. The students reported that they expect from effective teachers not only to be experts as regards subject knowledge, but also to be able to provide students with simplified but soundly constructed integrated knowledge, to address quickly and successfully students' learning problems regarding understanding and assimilation, and, finally, to boost weak students' and hard-workers' confidence.

- *Factor 2: Teachers' features regarding comprehensibility, patience, openness, and respect. [VSPI and HFL]:* [4], [9], [24], [29], [30] and [32]. The students participating in the study believe that effective teachers are modest and open to criticism and a diversity of views, teach simply and understandably, while, at the same time, are patient with slow-apprehension students.

- *Factor 3: Teachers' features regarding good-listening, supportiveness, trustworthiness, and humour. [VSPI and HFL]:* [12], [16], [21], [25], [28] and 31. The participants consider that effective teachers should listen carefully to the students' problems, complaints and views, be approachable and serious at the same time, and supportive as regards students' individual learning needs, hesitations and inner sensitivity.

- *Factor 4: Teachers' friendliness and empathy. [VSPI and HFL]:* [22], [23], [26] and [27]. Effective teachers tend to display affability and friendliness towards their students, with discreet physical touch, friendly direct eye contact, using the student's first name and, finally, by demonstrating empathy and sharing students' thoughts and problems.

- *Factor 5: Learning in groups, with visual aids, and out of the classroom. [VSPI and HFL]:* [7], [11] and [14]. Effective teachers should prefer cooperative learning as a teaching/learning strategy which can be further strengthened through the utilisation of multiple visual aids and IT, while experiential teaching out of the classroom remains highly preferable as an alternative teaching technique.

- *Factor 6: Breaking Curriculum restrictions and updating learning content. [VSPI and HFL]:* [8] and [10]. The participants expect from effective teachers to update the content of the subjects they teach using various modern sources of information even if they have to deviate from the teaching routines and restrictions set by official Curricula.

- *Factor 7: Clarifying objectives, adapting teaching, and assisting with homework. [VSPI and HFL]:* [2], [5] and [17]. Effective teachers tend to clarify the objectives of the school subject, the expected outcomes and the tasks assigned to students, while at the same time they adapt teaching techniques and expectations and provide individualised help to students who present learning difficulties.

- *Factor 8: Providing feedback and integrated assessment. [VSPI and HFL]:* [18] and [19]. Effective teachers should provide students with detailed feedback regarding their overall performance, while constructively suggesting ways for further improvement and development.

## Conclusions and discussion

This study examines Greek secondary education students' views on teacher effectiveness. Its results show that Greek students (a) relate teacher effectiveness to scientifically accepted teaching practices implemented and procedures developed in the classroom, and (b) attribute the feature 'effective' to teachers who develop specific behavioural attitudes during interpersonal communication.

As regards teaching practices and procedures, Greek students, similarly to their international counterparts (Opdenakker & Van Damme, 2006; Bakx et al.,

2015; Borich, 2016), seem to believe than only teachers who possess profound knowledge of their discipline should be described as effective. However, professional traits implied in factor 1 focus not only on teacher expertise as regards content-knowledge but also on a teacher's ability to link newly-provided knowledge to prior cognitive background of the student, evidently in order to 'bridge' the teaching/learning gaps which segregated or piecemeal provision of knowledge often results in (Lutz, Guthrie, & Davis, 2006). Students, also, report that they feel more confident when their teachers help them build such consolidated cognitive structures, probably because, as international reports show (Rice, 2003; Rivkin, Hanushek, & Kain, 2005), these structures are considered by the students to be more easily accessible and manageable. Student demand for more simplified knowledge, adapted to their personal learning ability, is also demonstrated through factor 7. Effective teachers are expected, as Ross and colleagues (2003) and Slavin (2014) have already shown, to provide their students firstly with information about what they have to do, and how and why they have to do it, and secondly with individualized assistance in order to accomplish tasks assigned to them (Matsumura & Pascal, 2003). It is rather evident that, as factor 8 implies and Mayer and Alexander (2011) and Smylie and Wenzel (2006) have also reported, students feel more secure and willing to be assessed by a teacher who has consciously and actively been involved in their personal, individualized struggle for learning, and who has provided them with ample feedback information and support for improvement. However, a teacher's ability to individualize knowledge and support, as already shown by Sharan (2010) and Van Gog and Paas (2008), is highly dependent on room for manoeuvre provided by official Curricula; factor 6 jointly to factor 5 portray a teacher who, according to Greek students and their international counterparts (Garrett & Steinberg, 2015; Goe, Bell, & Little, 2008; Gottlieb, 2015; Greany & Rodd, 2003), is effective when s/he is able (i) to adapt Curricula demands and restrictions to his/her students' interests, needs, and abilities, and (ii) to update learning material and learning procedures through the use of varied teaching strategies. However, variables 11 and 15 of table 1 and relevant participants' responses show that the majority of Greek students are 'moderately' and 'much' but not 'very much' sure that effective teachers should stray from official Curricula guidelines or implement group work as an alternative teaching strategy – a finding also reported by Greek and international researchers (Alahiotis & Karatzia, 2006; Berry, 2004; Ifanti, 2007; Koulaidis et al., 2006). To explain this hesitation of a significant percentage of the respondents, one should take into account that for Greek students, parents, and teachers as well, secondary education traditionally constitutes a stage of the student's preparation for advancement in tertiary education (Koutrouba, 2012; OECD, 2013). For the average Greek, university studies are highly considered firstly to facilitate professional development and survival in an extremely challenging job market, and secondly to avert a return of young people to rural economics restrictions of the past. As a result, a bureaucratic educational system, as expressed through inflexible over-demanding Curricula, has provided in the course of time students with more opportunities for broader content-knowledge and fewer opportunities for integrated attainment of social or affective objectives in education (Georgiadis, 2007; Koustourakis, 2007; OECD, 2011). In addition,

many students and teachers as well have been reported to believe that frontal whole-class teaching, though not pleasant as variable 19 in table 1 implies, produces higher academic achievements in shorter periods of time than cooperative procedures or alternative teaching strategies can do (Opdenakker & Van Damme, 2006; Rice, 2003; Sharan, 2010). The combination of student social advancement expectations with teachers' efforts to disseminate rapidly large quantities of knowledge seem to undermine constructive adaptations to the Curriculum, individualized or cooperative learning, and, finally student and teacher perceptions about what real education should be. Therefore, if a shift in educational values and practices should occur, as Cairns, Lawton, and Gardner (2001) have already noticed, education policy-planners should reduce content overload and a subsequent fast pace, in order to facilitate smooth content assimilation and effective knowledge consolidation, as Opdenakker and Van Damme (2006) and Perry, Donohue, and Weinstein (2007) have confirmed. In addition, they should give teachers a free hand to implement cooperative learning in their classroom, so as to enhance teaching routines and turn traditional learning into a lively experiential procedure (Traianou, 2009). As a result, teachers would also be able to provide their students with more individualized assistance, facilitating, thus, more fair and meaningful assessment, as Ross and colleagues (2003), Sharan (2010), and Teddlie and colleagues (2006) have shown.

Furthermore, as regards teacher behavioural attitudes during interpersonal communication, factors 2 and 4 provide the picture of an effective teacher who respects the students' special features and sensitivities and displays empathy and friendliness (Rice, 2003; Slavin, 2014). As already mentioned in factor 8, these two features seem to be attributed to a teacher who actively supports and participates in the efforts of the student. Moreover, according to factor 3, effective teachers are expected to be good-listeners and trustworthy as well. It is rather understandable that teenage students learn better when friendliness is present in every learning procedure (Hamre & Pianta, 2005; Noyes, 2005; Schacter, Thum, & Zifkin, 2006). Of course, it is a teacher's duty to define the limits of friendly relationships with the students, in order to help them feel accepted, encouraged and safe (Hargreaves, 2000; Harjunen, 2011). Curricula-planners should, however, promote learning procedures that facilitate the construction of relations where respectfulness coexists with friendliness. The organization of well-defined collaborative learning activities, cultural events, and school's experiential connections with social environments, could be rather easily introduced in real school life through more innovative flexible Curricula which serve equally cognitive, affective, and social objectives (OECD, 2013; Rice, 2003). Finally, teachers' training in adolescent psychology would provide them with the professional skills required for meaningful, effective teaching (Rice, 2003; Rivkin, Hanushek, & Kain, 2005; Smylie & Wenzel, 2006; Tucker & Stronge, 2005).

The present study shows that, according to the students, effective teaching may sound unrealistically ideal when examined on a theoretical basis. On the other hand, students clearly know what they expect from their teachers because they have already seen it happening (Sharan, 2015). It may not be sure that one teacher could be ever likely to have all the expected positive attributes, but, at

least, educators would admit that improving professional features and communication skills and taking into account the views, expectations, visions of their students may drive them more close to what is scientifically described as 'teacher effectiveness'.

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